NARSIMHA REDDY ENGINEERING COLLEGE
UGC AUTONOMOUS INSTITUTION
Maisammaguda (V), Kompally - 500100, Secunderabad, Telangana State, India
UGC - Autonomous Institute
Accredited by NBA & NAAC with 'A' Grade
Approved by AICTE
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UNIT–III

S.No		Questions	BT	CO	PO
Part–A(ShortAnswer Questions)					
1		Whatisbias?whatistheneedforbiasing	2	3	1
2		Whataretheconditionsforoperatingpoint?	3	3	1,2
3		Drawasmallsignallowfrequencymodelofatransistor?	2	3	1,2
4		MentionimportantcharacteristicsofCEamplifier?	2	3	1,2,3
5		Write the typical values of transistor configuration in h-parameter model.	3	3	1,2
6		Explain thermal stability?	2	3	1,2
7		Compare the three basing circuits	3	3	1,2
8		What is the need for biasing ?	2	3	1,2
9		Explain, How to avoid the thermal runway?	2	3	1,2
10		Define the stability factor for Fixed bias circuit, collector to base bias, voltage divider bias circuit?	2	3	1,2
Part–B(LongAnswerQuestions)					
11	a)	Drawthefixedbiascircuitandderivethestabilityfactor.	2	3	1
12	a)	DiscussthelowfrequencyresponseofBJTamplifierandtheeffect of coupling and bypass capacitors.	2	3	1,2
	b)	Whatistransistoramplifyingaction?	3	3	1,2
13		ExplainACandDCloadlineanalysisinBJT and discuss the criteria for fixing the Q- point.	2	3	1,2,3
14		Explain the h-parameter equivalent circuit for a typical common emitter amplifier and derive expression for Ai and Av.	2	3	1,2
15		What is the necessity of biasing circuits? Derive the expression for stability factor of a self bias circuit?	2	3	1,2
16		In a silicon transistor circuit with a fixed bias , VCC=9v,Rc=3K ohms Rb=8K ohms β=50 VBE=0.7V find the operating point and stability factor	2	3	1,2
17		Explain the need for biasing circuit? Describe about the factors affecting the operating point	2	3	1,2
18		Derive the stability factor for a fixed bias circuit	3	3	1,2
19		Derive the stability factor for a voltage divider bias circuit	3	3	1,2
20		Design the voltage divider circuit from the following Data V_{CC} = 24V, β = 110, I_{CQ} = 4mA, V_{CEQ} = 8V and choose $V_E = V_{CC}/8$.	3	3	1,2